

October 11, 1953

Dr. Seymour Pomper  
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New York, N.Y.

Dear Sy:

An Australian bacteriologist, Professor Rubbo, is due to visit Wisconsin for a few months this winter. As he will be working primarily at the Enzyme Institute, where Green and Lardy are deeply interested in mitochondrial enzymology, and he has had a good deal of experience with the acridine dyes (having been responsible for the development of "Euflavine" as a topical antiseptic), I thought he might well spend some time on the euflavine-"petite" yeast problem. The routine might center on the effects of the acridine dyes on isolated mitochondria, but I thought we ought to have a try at the artificial reintroduction of wild type "mitochondria" into the petite cells.

We have not fully worked out the plans, but I thought to use some sort of selective genetic approach, which brings me to the point of my letter. I am writing to you in particular as almost the only yeast geneticist to have emphasized the regular segregational behavior of your own strains: I hope we can work on a system with no extra-Mendelian nonsense for the chromosomal markers. Would you be able and willing to provide fertile, haploid cultures of the following types:

prototrophic, and two distinct auxotrophs, preferably each in the two mating types?

I would not be concerned about the required growth factors for the mono-auxotrophs, so long as they furnish easily scored, unambiguous markers. Is this too large an order?

Both for present and other purposes, do you know of any work (or did you do any yourself at ORNL) on the mating capacity of haploid yeasts that have been irradiated and made vegetatively inviable? One of the problems will doubtless be the introduction of the particles, and I thought we might conceivably use the mating process for the purpose of venereal infection.

I don't think we will go very deeply into yeast genetics, the bacterial work being more than we can handle. But this specific problem seemed like the most appropriate for the immediate circumstances. I need not say that your help (and any further comments you might have on the problem) would be deeply appreciated.

Yours sincerely,

Joshua Lederberg

P.S. Congratulations on your escape from Tennessee. I hope it isn't frying pan into fire.